BEDSIDE MEDICINE FOR BEDSIDE DOCTORS

An Open Forum for brief discussions of the workaday problems of the bedside doctor. Suggestions for subjects for discussion invited.

CARCINOMA OF THE PROSTATE

CHARLES D. LOCKWOOD, M. D. (605 Professional Building, Pasadena).—Carcinoma of the prostate is one of the most insidious and distressing conditions met with in the practice of surgery. The diagnosis is rarely made early, partly because of the fact that the growth does not produce symptoms of sufficient urgency to demand immediate relief, and partly because physicians and surgeons are negligent in making routine rectal examinations. Indeed, carcinoma of the prostate was considered a rare affection up to fifteen or twenty years ago. About that time the surgical treatment of benign hypertrophied prostate became common, and in the routine examination of enlarged prostates it was found that a large percentage of them were malignant. It is now generally agreed that about 20 per cent of prostates removed and examined in serial sections reveal carcinoma. It is estimated that 20 per cent of all men over sixty years of age have prostatic trouble. Therefore if 20 per cent of these prostates are malignant, approximately four men in every hundred are the victims of cancer of this organ. Cancer of the prostate is about as common in men as cancer of the cervix in women, and is, therefore, a subject of very great interest to the surgeon.

The early symptoms are pain in the back, radiating down the back of the leg, and frequency and difficulty of urination. Retention of urine and hematuria are relatively uncommon. Frequency and difficulty of urination are the common initial symptoms.

Early metastasis is characteristic of cancer of the prostate. The long bones of the body are most often affected. Pains in the leg and back generally indicate involvement of the bones. Sciatica in old men, especially if bilateral, should awaken the suspicion of a malignant prostate. In the vast majority of cases the early symptoms are neglected by the patient and overlooked by the physician, and when the surgeon or specialist is finally consulted the condition is already hopeless. An early diagnosis can be made by one trained in rectal examination of the prostate. Hard nodules on the surface of the prostate nearest the rectal wall are quite characteristic. The rectal canal is not invaded until late, but patients often complain of painful defecation even before the growth has produced obstructive symptoms.

Summary.—Cancer of the prostate is very common, is usually unrecognized and is symptomless for the first few months.

The early symptoms are pain, obstruction to urinary flow and frequency. Carcinoma of the prostate should be thought of in every case of urinary obstruction in men over fifty years of age.

Metastatic carcinoma should always make the diagnostician think of the prostate as a possible seat of the primary growth.

* * *

MILEY B. WESSON, M. D. (939 Medico-Dental Building, San Francisco).—Four men out of every one hundred who live to be sixty years of age have cancer of the prostate. In large clinics five per cent of all urological cases seen are cancers of the prostate. One out of every five patients who have enlarged prostates have cancers. It is generally accepted that one-third of all cases of cancer of the prostate show bony metastases when they first consult a doctor. A fair percentage have involvement of pelvic and abdominal lymph glands (not as a rule demonstrable), and a small percentage have vesical metastases. Hence, at least 50 per cent are beyond the possibility of a cure before the diagnosis is made. If a rectal examination were made an integral part of every routine physical examination, it is probable that more cancers would be found early.

Prostatic carcinoma is, on the whole, a slow-growing tumor and at first may cause no symptoms. In many cases it exists for years before it makes itself known to the patient or is discovered; consequently too often it is only in the end stages of the disease that it is diagnosed and as a result longevity is short. We may have well-established carcinoma with metastases in almost any part of the body without the prostate being suspected as the primary site because of the absence of definite urinary symptoms. In many instances extensive involvements of the seminal vesicles and metastases in the bones occur without glandular involvement. Lymphatic or bony metastases may develop and the absence of all urinary obstruction give the first symptom of prostatic carcinoma in the form of pain or even a pathological fracture of the femur.

The two commonest symptoms are urinary obstruction and pain, and as a rule the pain appears first. This is of two types: (1) local—the discomfort in the bladder, urethra, and penis takes the form of frequency and dysuria, and is secondary to an obstruction or due to a cystitis. The obstruction is due to a cancerous stricture of the prostatic urethra or is coincident with a benign prostatic hypertrophy, which occurs in 61 per cent of the cases of cancer; and (2) distant—as in the legs, hips, back or chest, which is probably due to nerve-root involvement by metastases. The

cancer cells pass through the lymph vessels and lodge in the nodes, which lie as high as the bifurcation of the aorta. Eventually they pass through all lymph vessels of the body and even into the blood stream; hence their spread is not limited. These metastatic masses pressing upon the sacral plexus cause pain in the legs and as the masses increase in size, may compress the veins to such an extent as to result in edema of the legs. In the course of time the patient will show loss of weight and strength, with anemia; palpable tumors; edema of the legs or scrotum; posterior urethral strictures; and rectal disturbances due to encroachment of the perirectal tissue or invasion of the lumen.

The first symptoms of prostatic carcinoma may be in the form of arthritic pains or even a pathologic fracture of a long bone. The osseous system is eventually invaded in almost every case. There is a marked predilection for the bones of the vertebral column and pelvis. Hugh H. Young believes that *the presence of metastatic growths in bones always suggests prostatic origin* even if there have been no local symptoms. The usual roentgenologic picture is that of a change in the architecture, a condensation process without destruction of the bone. There is an actual laying down of new bone that results in a general appearance of spottiness, and at the same time an increase in the size of the bone. Too many patients are treated for an osteo-arthritis for months before the orthopedist's attention is directed to the proper diagnosis through the development of urinary symptoms. An unexplained persistent backache in a man past the age of fifty should always suggest carcinoma of the prostate.

Prostatic cancer practically always originates in the posterior lobe. There may be extensive growth in the prostate and seminal vesicles without any urethral obstruction unless there is a concomitant benign prostatic hypertrophy or a median bar present. Denonvilliers' fascia limits the spread of cancer posteriorly, consequently it first extends upward to the seminal vesicles and downward to the membranous urethra. Eventually it invades the triangular ligament and, breaking through, attacks Cowper's glands and passes on into the urethral bulb. It may invade the cavernous tissue of the bulb the full length, and when both corpora cavernosa are invaded the patient will have a constant priapism due to distention from cancer cells. Later in the disease it may extend anteriorly through the bladder wall, and in time may break posteriorly through Denonvilliers' fascia and invade the rectal wall. The stricture of the rectum that eventually develops may be caused both by pressure from without and the growth within the rectum. There is seldom sufficient necrosis to cause a recto-urethral fistula.

Diagnosis in early cases is based wholly upon rectal palpation; consequently if these cases are to be found at a time when they can be cured, a proper rectal examination will have to be made routinely upon all males over forty years of age. Not until then will more cases be diagnosed while there is still a possibility of a cure. The average doctor has neither been taught how to make a rectal examination nor how to interpret his findings. The first requirement is a finger that is over three inches in length. At the time of palpation there are three points that must be considered: (1) nodules in the prostate, markedly firmer than the surrounding gland, are suggestive of cancer; (2) extensive induration with adhesions and fixation of the prostate, especially if involving the seminal vesicles, suggests cancer even though the induration is not stony; (3) thickening of the membranous urethra and intervesicular notch, with fixation and obscuring of outlines is indicative of cancer. The cystoscope gives very little definite help except when used as an aid to palpation. With a finger in the rectum, as the cystoscope is withdrawn with the beak turned downward, an idea is obtained of the thickness of the vesical lip and its stage of induration. In far advanced cases it is often impossible to differentiate cancer and tuberculosis, and the prognosis is equally grave. There is nothing characteristic about the prostatic or seminal vesicle secretions in the case of cancer, but in cases of tuberculosis, tubercle bacilli may be found. Prostatic calculi may cause confusion, but an x-ray picture will quickly make the differentiation. In all patients there should be pictures made showing the lumbar vertebrae, pelves and upper end of the femur, and before surgery is considered, of the lungs.

The treatment varies with each patient. If the diagnosis is made while the cancer is limited to a nodule in the prostate, radical prostatectomy which removes the entire prostate and seminal vesicles and neck of the bladder, including the proximal half of the trigon, will produce a cure. If the disease is far advanced and the patient is suffering from urinary obstruction due to cancerous involvement of a benign hypertrophy, then a partial prostatectomy will have to be done and the lobes instead of being dissected out will probably require the use of a curette to remove. In the very common type, where the obstruction is due to a cancerous bar, one of the various forms of punches will furnish relief. In all cases radium should be used either in massive doses or by implantation of emanations. This can be done through the operative incision, or by means of needles introduced through the perineum, or through cystoscopic implantations. Deep x-ray therapy is probably our most valuable agent, for although it is doubtful if it ever produces cures, it at least keeps the patient comfortable and has been known to prolong life eleven years or more. When we consider that the diagnosis at present is generally not made until the patient is about sixty years of age, the prolongation of life for that many years indicates that deep therapy should be used in all cases. The popularizing of routine intelligent rectal examination will result in early diagnosis and a corresponding increase in the number of cures.

ROBERT V. DAY, M. D. (1930 Wilshire Boulevard, Los Angeles).—It is a lamentable truth that carcinoma of the prostate, when it reaches the stage that is definitely diagnosable, is seldom curable.

The most radical procedures, comprising surgery, roentgen ray, and radium, either individually or in various combinations, have failed to cure in such an overwhelming percentage of cases (less than four per cent of cures having been reported) that their employment, except for palliative purposes, is hardly justified. For the palliative objective, however, surgery is quite imperative in more than 90 per cent of cases, and when well advised and properly executed, and attended with adequate, intelligent, and diligent after-care, is a godsend to these otherwise intensely suffering individuals. Radium has definitely failed in this anatomical area, at times resulting in quite dreadful sequelae with hardly any compensating benefits. Palliative roentgen irradiation in measured and reasonable doses, not too oft repeated, as recommended by Francis Carter Wood and others,* is exceedingly useful in relieving the so-called root pains and allied neuralgias due to metastatic infiltration around, and resultant pressure on, the pelvic plexuses, and sometimes involving other nerve trunks. Such pains themselves are evidences of metastases, which means that only palliative treatment is justifiable, a cure being out of the question. Occasionally bleeding is controlled by irradiation, but such relief is only temporary. Bleeding is much better taken care of by cystostomy, sometimes supplemented by partial enucleation or partial excision where that is practicable.

In the exceptional case in which bleeding is not controlled by the above measures, moderate irradiation may be helpful. Farther than the above-cited indications, the use of roentgen-ray therapy in carcinoma of the prostate is clinically wrong, theoretically illogical, and, in practice, results in nothing but increased suffering for the patient. Roentgen irradiation, even with the newest huge transformers and apparatus operating under nearly a million voltage, has failed to effect cures or even bring about a noticeable increase in the percentage of so-called arrests. Unlike carcinoma of the uterus and its adaptability to treatment by radium, the anatomical relations of the prostate to the posterior urethra, anus, lower rectum, and bladder, render it a most unfavorable region for the employment of intensive irradiation. From the standpoint of pain resulting therefrom, lasting seldom less than eighteen months, and ordinarily until the patient's demise, the prostatic urethra, lower rectum, and bladder are exceptionally sensitive. Irradiation results in peculiar interstitial changes in the walls of such tubular or semi-tubular, highly muscular structures as the posterior urethra, lower rectum, and bladder, whose function it is to expand and contract into cavities of varying capacities. The histologic picture is that of an active subacute inflammation, with infiltration and edema, and with immature fibrosis. It takes years for the resolution of the interstitial infiltration, consisting of many varying types of cells, and for the formation of adult scar tissue. There is a partial splinting and pressure on nerve filaments, because of which the slightest muscular contraction or expansion of the hollow tubular organs spells intense suffering to the patient. After true fibrosis has occurred (if the patient is so unfortunate as to live that long) permanent suprapubic drainage is almost inevitably imperative. Besides such interstitial phenomena, irradiation causes the mucosa of the posterior urethra and trigon to become eroded, with a marked increase in the ammoniacal content of the urine and calcareous incrustation.

Radiotherapeutists claim a great many arrested cases. But who would care to go on living as an arrested case, and be obliged to endure the effects of intensive irradiation of the prostate and contiguous structures, given over a sufficiently long period to produce an arrest. The remedy is worse than the disease, even for those few who are cured or arrested, to say nothing of what is suffered by those who get neither cure nor arrest, but nevertheless must endure the dire effects of the remedial agent.

In nearly every instance the patient with prostatic carcinoma presents himself for relief of pain associated with the urinary act, or with complete retention. In fully 65 per cent there is an associated benign hypertrophy which is the real cause of the obstruction and pain. Sometimes a prostatic bar or carcinomatous stricture of the posterior urethra is responsible. It is indeed a rare occurrence that a patient presents himself at such an early stage of the disease that a radical resection of the prostatic urethra, bladder neck, trigon, and seminal vesicles, as well as the prostate itself, would offer any probability of cure. Even Young, who devised this radical operation, performed it in only four per cent of his cases. In its extremely limited field, it is unquestionably the method of choice, but the carcinomatous process must be confined to one or two small nodules with no surrounding infiltration, hardness, or fixity of the prostate in the pelvis, and obviously no metastasis.

If there is much associated benign hypertrophy and resultant obstruction, then a permanent cystostomy for drainage and relief of the dysuria is indicated. If the adenomatous portion of the prostate so protrudes into the bladder that a suprapubic drainage tube rests on a hypersensitive area, then a more or less complete enucleation of this adenomatous portion makes for subsequent comfort. Otherwise a simple cystostomy is preferable. In the absence of benign hypertrophy, if there is only a moderate obstruction due to a median bar, which so often accompanies a prostatic carcinoma, a Punch operation may sometimes (but rarely) afford relief. Occasionally, enucleation may be so thorough that the suprapubic sinus closes normally, and the patient enjoys a pretty comfortable life for a period vary-

* Radiology, March 1931, page 291.

ing from six to eighteen months before it is necessary to establish permanent suprapubic drainage.

Conclusions.—1. Carcinoma of the prostate, as seen clinically, is almost never curable. If seen at a sufficiently early stage, a radical resection (not a classical prostatectomy) is justified. Otherwise, attempts at cure in clinically diagnosable cases only result in increased suffering.

2. Palliative measures are necessary and desirable, and may be classified under three heads, namely: (*a*) Surgery. (*b*) Palliative irradiation. (*c*) Opiates.

Cystostomy, sooner or later, will be found indispensable, and should not be unduly postponed if dysuria and obstruction are marked. Enucleation of that portion of the prostate involved in the associated condition of benign hypertrophy, as well as the resection of bars when present, often result in a period of six to twelve months' comfort and natural voiding. Palliative roentgen-ray irradiation for root pains is useful. Opiates should not be withheld when needed.

3. Most patients in whom the prostate, the adjacent bladder wall, and the lower rectum have been intensively irradiated, as a rule, must endure greatly increased pain during the remainder of their lives as a result of such irradiation—unnecessarily, we believe, and without adequate compensating advantages.

4. Adequate management of the psychology of the cancer state should be brought about only by methods that are not productive of distress.

Poliomyelitis Prevalent in New York City.—A marked increase in the prevalence of poliomyelitis is reported in New York City by the *United States Daily*, the number of cases of the disease having increased from 5 to 159 during the period from July 1 to 25.

This increase has been so rapid that the city health commissioner, Dr. Shirley W. Wynne, and Dr. Thomas Parran, Jr., state health officer of New York, called a special conference last week to consider measures of preventing further spread of the disease.

Assistant Surgeon-General C. E. Waller and Surgeon W. T. Harrison attended this conference as representatives of the U. S. Public Health Service.

Preliminary reports show, however, that Massachusetts and Connecticut also have had increases in the number of cases of infantile paralysis, although the higher rates of increase in these two states are not so pronounced as is that of New York. Additional information made available follows:

The increase in a period of less than twenty-one days of from 5 to 159 cases of infantile paralysis in New York City is significant, not because of the actual number of cases at the present time, but because of the rapid rate of increase. Strangely enough, this outbreak has occurred in practically the same center as did the last serious outbreak in 1916.

The Public Health Service is seeking more adequate statistics on the prevalence of infantile paralysis in areas adjacent or near New York. Figures reported up to July 25 show that seventy-nine cases have been reported in Massachusetts since January 1. Of this total number, however, forty have been reported since July 1, and fourteen cases have been reported in the week ended July 25. A faster rate of increase in prevalence likewise has been noticed, therefore, in Massachusetts during the last three weeks.

Connecticut has reported nineteen cases of infantile paralysis since July 1. New Jersey reported eighteen cases and Pennsylvania twelve during the same period between July 1 and 25. More complete figures for all New England States are being sought, however.—*New England J. Med.*, August 6, 1931.

Character Greater Necessity Than Learning.—Let me quote a sentence or two which I recall from Doctor Hutchison's address: "What we need for the attainment as individuals is not more knowledge but a change of heart. We hear such catch phrases as a nation's health is the nation's wealth, and health is the country's asset. Believe me, a country's greatest asset is character."

It seems to me that Hutchison has stated, for all time, a great truth. A great nation is truly built upon sterling character.

This leads me to repeat that which I have said in other speeches often during the past two years in my journeyings hither and yon about the country, that by the ever-increasing tendency toward paternalism we are not only teaching self-dependence but are steadily weakening character in the individual. We are robbing him of the habit of the necessity for the thought of tomorrow, permitting him to slumber on thoughtlessly through today. In the last analysis we shall find that this has not been a salutary practice. He that would enjoy a safe and comfortable old age must lay for himself the foundation in early life.—*Address*, William Gerry Morgan.

The Normal Tonsil.—At a recent meeting of the Section of Laryngology of the Royal Society of Medicine there arose a question which is perhaps not generally recognized. E. A. Peters demonstrated some sections of tonsils and from the changes present concluded that it was easy to understand that more symptoms arise from septic tonsils than from dental apical abscess. Dan McKenzie said that the use of the word "sepsis" in connection with tonsils is ridiculous, as all tonsils are septic. T. B. Layton submitted that the only normal tonsil is the inflamed tonsil. He said that this is a paradox that has to be faced, since a structure is normal when it is performing its functions; and the function of the tonsil is to react and to resist the invasion of the upper air passages by pathogenic microörganisms. This point is not one of mere academic interest nor is it a play on words. Dan McKenzie believes that a tonsil should be judged by its behavior, not by its simple appearance or by the bacteriological reports upon it. This view must be accepted. Undoubtedly more information would be gained about the condition of individual patients and a better understanding of tonsillitis would be obtained if tonsils on removal were submitted to histological examination by pathologist and surgeon.—*The Medical Journal of Australia*, August 2, 1930.

Disinfectants.—In combating contagion, modern sanitary practices have eliminated disinfectants for spraying walls, ceiling and floors of school rooms. The source of infection is the individual; so long as the infected individual is present in the room, any disinfectant that might be used on the walls or the floor would be of little, if any, value in preventing infection. Removal of the infected individual usually suffices to end the danger of spreading the infection. Soap and water is the best agent for cleaning floors, together with plenty of fresh air and sunshine. Terminal disinfection, such as fumigation with formaldehyd, has been generally discarded as valueless. In the case of lavatories, urinals, and toilet bowls, so-called germicides in reality accomplish nothing except covering up the primary odor by the stronger odor of the chemical used. "Disinfection of hands" may be obtained by a thorough scrubbing with soap and water. In laboratories in which pathologic material is being handled, a solution of mercuric chlorid or a solution containing "compound solution of cresol" may be employed.—*Journal of the American Medical Association*, March 28, 1931, p. 1098.